

## Claims

1. A system for fabricating sliders for magnetic recording comprising:
  - lapping hardware for lapping an air-bearing surface of a slider;
  - 5 means for electrically connecting to lead pads on the slider,
  - a first measurement unit, connected to two leads pads that are connected to a read sensor or an electro-lapping guide for the read sensor, which measures a first electrical resistance and generates a first digital signal encoding the first electrical resistance;
  - 10 a second measurement unit, connected to two leads pads that are connected to an electro-lapping guide aligned with a selected structure in a write head in the slider, which measures a second electrical resistance and generates a second digital signal encoding the second electrical resistance; and
  - a controller that stops the lapping hardware when target conditions for the
  - 15 stripe height are met using the first digital signal as a measure of a current stripe height and target conditions for the selected structure in the write head are met using the second digital signal as a measure of a current lapping plane's proximity to a target air-bearing surface for the write head.
- 20 2. The system of claim 1 further comprising pressure modulation means, under control of the controller, that exerts less lapping pressure on the slider when the current lapping plane is closer to target air-bearing surface in comparison to other sliders being lapped.
- 25 3. The system of claim 1 wherein the electro-lapping guide aligned with the selected structure in the write head extends from a section of the slider to be removed by lapping into a write gap in the slider.

4. The system of claim 1 wherein the electro-lapping guide aligned with the selected structure in the write head extends from a section of the slider to be removed by lapping into a separation gap in the slider between a pole piece for the write head and a shield for the read sensor.

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5. The system of claim 1 wherein the electro-lapping guide aligned with the selected structure in the write head is contained in a section of the slider to be removed by lapping.

10 6. The system of claim 5 wherein the controller performs a rapid first phase of lapping until the electrical resistance measured between the two leads pads that are connected to the electro-lapping guide aligned with the selected structure in the write head becomes that of an open switch and then performs a slow second phase of lapping.

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7. A slider containing a thin film magnetic recording head comprising:  
a write head including a yoke comprising a plurality of pole pieces;  
an electro-lapping guide aligned with a structure in the write head;  
a first electrical lead connecting a first location on the electro-lapping  
20 guide to a first pad on a surface of the slider; and  
a second electrical lead connecting a second location on the electro-lapping guide to a second pad on a surface of the slider.

8. The slider of claim 7 wherein the electro-lapping guide is made of rhodium.

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9. The slider of claim 7 wherein the first pad is an R+, R-, W+ or W- pad.

10. The slider of claim 9 wherein the second pad is a fifth pad on the surface of the slider which is not a R+, R-, W+ or W- pad.

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11. The slider of claim 7 wherein the electro-lapping guide is located in a write gap in the write head.
12. The slider of claim 7 wherein the electro-lapping guide is located in a  
5 separation gap between a pole piece and a shield of the read head.
13. A slider containing a thin film magnetic recording head comprising:  
a write head including a yoke comprising a plurality of pole pieces;  
an electro-lapping guide that is disposed in a section of the slider which  
10 will be removed by lapping, the electro-lapping guide being aligned with a structure in the write head;  
a first electrical lead connecting a first selected location on the electro-lapping guide to a first pad on a surface of the slider; and  
a second electrical lead connecting a second selected location on the  
15 electro-lapping guide to a second pad on a surface of the slider.
14. The slider of claim 13 wherein the electro-lapping guide is made of rhodium.
15. The slider of claim 13 wherein the first pad is an R+, R- pad and the second  
20 pad is a W+ or W- pad.
16. The slider of claim 13 wherein the electro-lapping guide ends approximately 10 to 100 nm from a target air-bearing surface.